CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

COMPLAINT NO. R2-2002-0016

ADMINISTRATIVE CIVIL LIABILITY

IN THE MATTER OF
C&H SUGAR COMPANY
CROCKETT, CONTRA COSTA COUNTY

This Complaint to assess Administrative Civil Liability (ACL) pursuant to California Water Code (CWC) Section 13385(c) and (e) is issued to C&H Sugar Company (hereinafter the Discharger), based on a finding of the Discharger's violations of Waste Discharge Requirements Order No. 95-078 (NPDES No. CA0005240). The period covered by this Complaint is from July 1, 1995 through December 31, 1999. All effluent limit violations and permit non-compliance are subject to a penalty under Section 13385(c) of the CWC. Effluent limit violations between January 1, 2000 and December 31, 2001 are covered under a separate Complaint.

The Executive Officer finds that:

1. On April 19, 1995, the San Francisco Bay Regional Water Quality Control Board (hereinafter the Board) adopted Order No. 95-078 for the Discharger and Crockett Valona Sanitary District (CVSD). Order No. 95-078, which serves as an NPDES permit, contains discharge prohibitions, effluent limitations, provisions, self-monitoring and reporting requirements for the wastes discharged from C&H's sugar refinery and biological wastewater treatment plant (hereinafter the treatment plant).

2. The Discharger owns and operates a sugar refinery in Crockett, Contra Costa County. The refinery has a 14-day operating cycle in which it produces refined sugar for ten days and shuts down for four days. The production process generates sugar-laden waste that receives on-site primary treatment for solid removal and secondary treatment at the treatment plant located adjacent to the refinery property.

3. In 1976 the Discharger entered into a Joint-Use Agreement with CVSD for the joint use of the treatment plant, which the Discharger built in the late 1970s. According to agreement provisions, the Discharger assumed, and continues to assume, full responsibility for the operation and maintenance of the treatment plant to produce an effluent in compliance with the applicable NPDES permit, and CVSD shares the equipment cost and reimburses the Discharger a portion of the operational and maintenance cost.

4. C&H Sugar Company is named as the Discharger in this Complaint because it is the sole operator of the treatment plant and its own refinery. According to the Joint-Use Agreement, CVSD has no responsibility for the operation and maintenance of the treatment plant. In assuming its operator responsibility, the Discharger chose to hire a contractor to operate the treatment plant. Some violations noted in this Complaint, particularly false reporting of permit compliance, were due to actions of a contractor employee. Despite this, it is still the Discharger's responsibility to ensure that the wastes discharged from the treatment plant and the refinery have to comply with the waste discharge requirements contained in Order No. 95-078.

5. The treatment plant provides biological treatment, disinfection and dechlorination for the combined waste that consists of process wastewater from the refinery and municipal sewage from CVSD. The treated effluent is discharged via a deepwater outfall to Carquinez Strait, which is a water of the State.

6. The Discharger also discharges once-through cooling water from its refinery production facility. The cooling water is discharged at an average flow rate of 14 million gallons per day (MGD) to Carquinez Strait via a separate deepwater outfall. In addition, there are ten stormwater outfalls located in various areas throughout the refinery property. The Discharger uses these outfalls to drain stormwater runoff from the property.

7. During the refinery shut down days, the discharge of cooling water from the refinery is substantially reduced. The treatment plant, however, continues to treat the combined waste at an average flow rate of 0.8 MGD. In a normal treatment plant operation day, there is no effluent discharged during part of the night. Instead, the biologically treated wastewater is stored in the chlorine contact channels. Effluent discharge, however, may occur if there is a high wet weather inflow that exceeds the in-plant storage capacity or the storage capacity is not available due to maintenance.

8. In 1995 the Board previously issued to the Discharger a Complaint for administrative civil liability in an amount of $24,000 for nine spills of sugar liquor and untreated waste, and one exceedance of pH limit.

9. Board Order No. 95-078 includes, in part, the following discharge prohibitions for waste discharged to the receiving water:

   Discharge Prohibition A.1
   The discharge of Waste 001 (refinery cooling water) and Waste 002 (treated effluent) at any point at which the wastewaters do not receive an initial dilution of at least 10:1 is prohibited, unless as otherwise authorized by a permit issued by the Board for purposes such as water reclamation.

   Discharge Prohibition A.3
   The bypass or overflow of untreated or partially treated Waste 002 to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited.

   Discharge Prohibition A.4
   Discharges of wastewaters, materials, or other wastes other than storm water which are not otherwise authorized by this Order, to a storm drain system or waters of the State are prohibited.

10. Board Order No. 95-078 includes, in part, the following effluent limitations that the discharge of wastes from the refinery and the treatment plant shall not exceed:

    For refinery cooling water and treated effluent
    Monthly average biochemical oxygen demand loading: 3,096 lb/day
    Daily maximum biochemical oxygen demand loading: 8,568 lb/day

    For treated effluent
    5-sample median total coliform: 240 MPN/100 mL
    Chlorine residual: 0.0 mg/L
    Effluent toxicity as measured by 11-sample 90th percentile minimum fish survival rates in 96-hour flow-through type bioassay tests: 70 percent
    Monthly average oil and grease: 10 mg/L

Daily maximum oil and grease: 20 mg/L

For stormwater runoff
pH value range: 6.5 to 8.5

11. Section 13385 of the CWC authorizes the Regional Board to assess administrative civil liability for violations of waste discharge requirements.

ALLEGATIONS

1. The Discharger is alleged to have violated waste discharge requirements contained in Order No. 95-078.

2. During the time period between July 1, 1995 and December 31, 1999, the Discharger falsely reported that it was in compliance with the chlorine residual limit of 0.0 mg/l 59 times. These false reports of compliance resulted in a total of 41 days of chlorine residual limit violations. The largest exceedance of the chlorine residual limit was 14.3 mg/l. The total volume of inadequately treated wastewater associated with these violations was 6.7 million gallons.

3. According to monitoring reports received, the Discharger reported exceedances of the following effluent limits during the time period between July 1, 1995 and December 31, 1999:

   a. Daily maximum biochemical oxygen demand loading limit seven times;
   b. Monthly average biochemical oxygen demand loading limit four times;
   c. Chlorine residual limit ten times;
   d. Five-sample median total coliform limit twenty-five times;
   e. Stormwater pH limit seven times;
   f. Bioassay test eleven-sample 90-percentile survival limit one time;
   g. Daily maximum oil and grease concentration limit one time; and
   h. Monthly average oil and grease concentration limit one time.

   Details of these violations are summarized in the attached Staff Analysis and Recommendations, which is incorporated by referenced herein. These effluent limit exceedances resulted in a maximum total of 208 days of violations, and the associated discharge of partially treated wastewater to Carquinez Strait was 2,539 million gallons.

4. The Discharger also violated the following discharge prohibitions of the permit for 6 days during the time period between July 1, 1995 and December 31, 1999:

   a. Discharge Prohibition A.1
      i. Effluent discharge with no dilution one time.

   b. Discharge Prohibition A.3
      i. Overflow of untreated wastewater to storm drain one time.

   c. Discharge Prohibition A.4
      i. Wastewater leak to storm drain one time;
      ii. Diesel spill to Carquinez Strait one time;
      iii. Sugar liquor spill to storm drains two times; and
      iv. Truck washwater discharge to storm drain one time

The total volume of these unauthorized discharges was 1,120 gallons.

5. The Discharger failed to comply with the Self-Monitoring Program and reporting requirements 268 times for a total of 147 days during the time period between July 1, 1995 and December 31, 1999. In 1998, the Regional Board issued three Notices of Violations requiring corrective actions regarding the Discharger's problems in producing accurate self-monitoring reports. Unauthorized signatures on the self-monitoring reports caused 10 of these 268 incidents of permit non-compliance.

6. The Discharger's further violations of the NPDES permit between January 1, 2000 and December 31, 2001 are subject of a separate Complaint.

PROPOSED CIVIL LIABILITY

1. The Regional Board could impose maximum civil liability in this matter. The maximum civil liability is determined as follows:

   a. $10,000 for each day in which a violation of the permits occurred; and
   b. $10 per gallon for the discharge volume that is not susceptible to cleanup and exceeds 1,000 gallons.

   If the matter is referred to the Attorney General, a higher liability of $25,000 per day of violation and $25 per gallon may be imposed.

2. Issuance of this Complaint is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Section 15321(a)(2), Title 14, California Code of Regulations.

3. In determining the amount of administrative civil liability, the following factors, which are defined in Section 13385(e) of the CWC, have been taken into consideration and are discussed in the attached Staff Analysis and Recommendations:

   > "The nature, circumstances, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on its ability to continue its business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and such other matters that justice may require."

4. The Executive Officer of the Regional Board proposes that an Administrative Civil Liability be imposed by the Regional Board under Section 13385 of the CWC in the amount of $367,000.

C&H SUGAR COMPANY IS HEREBY GIVEN NOTICE THAT:

1. The Executive Officer of the Regional Board proposes that the Discharger be assessed Administrative Civil Liability in the amount of $367,000 that includes $21,500 of staff cost in preparation of this Complaint.

2. The Executive Officer proposes to allow the Discharger to pay the full amount of the liability over a three-year payment schedule.

3. The Regional Board shall hold a hearing on May 22, 2002, unless the Discharger agrees to waive the hearing and pay the Administrative Civil Liability of $367,000 in full, in accordance with an approved time schedule noted in item 2 above.

4. In lieu of paying the fine, the Discharger may waive the hearing and complete a supplemental environmental project (SEP), or complete a SEP and a compliance project (CP) together. The SEP and CP must be acceptable to the Executive Officer. Any proposed SEP should conform to the general criteria for SEP set forth in the State Water Resources Control Board's Guidance to implement the Water Quality Enforcement Policy, Resolution No. 96-030, as amended by Resolution No. 97-085. The amount of the SEP and CP shall be no more than $245,500 and $100,000, respectively, and the remainder ($21,500) shall be paid to the State Cleanup and Abatement Account within 30 days of the signed waiver. If the Discharger wishes to propose a SEP, or a SEP and a CP, it must submit the proposal(s) to the Regional Board **no later than May 2, 2002**. If the proposed SEP and/or CP is/are not acceptable to the Executive Officer, or if the Discharger fails to adequately complete the approved SEP and/or CP, the Discharger has 30 days from receipt of notice denying the proposal or the completion report(s) to make a payment for the appropriate suspended liability or liabilities to the State Cleanup and Abatement Account. Any money not used by the date specified by the Executive Officer must be submitted to the Regional Board and made payable to the State Cleanup and Abatement Account. Any SEP and/or CP acceptable to the Executive Officer must be completed within a time schedule approved by the Executive Officer. Progress reports on the SEP and/or CP implementation shall be provided to the Regional Board according to a time schedule acceptable to the Executive Officer. The final report on the SEP and/or CP shall be submitted to the Regional Board within 30 days of project completion.

5. If the Discharger wishes to waive the hearing and chooses not to do the SEP and CP, please check the first box and sign the attached waiver and return it with a check made payable to the State Water Resources Control Board for the full amount of the ACL, $367,000, to the Regional Board's office at 1515 Clay Street, Suite 1400, Oakland, CA, **by May 2, 2002,** or in accordance with an approved time schedule noted in item 2 above.

6. If a hearing is held, the Regional Board will consider whether to affirm, reject, or modify the proposed administrative civil liability, or whether to refer the matter to the Attorney General for recovery of civil liability.

Loretta K. Barsamian
Loretta K. Barsamian
Executive Officer

April 8, 2002
Date

Attachment: Waiver
Staff Analysis and Recommendations

WAIVER (Check only one box below)

[ ] ***Waiver of the right to a hearing and agree to make payment in full***

By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. R2-2002-0016. I understand that I am giving up my right to: (i) be heard, (ii) argue against the allegations made by the Executive Officer in this Complaint, and (iii) argue against the imposition of, or the amount of, civil liability proposed. I further agree to remit payment for the civil liability imposed within a three-year payment schedule after the waiver is signed.

[ ] ***Waiver of the right to a hearing and agree to propose a SEP***

By checking the box, I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. R2-2002-0016, and to propose and complete a supplemental environmental project (SEP) for the amount of suspended liability of $345,500 in lieu of the administrative civil liability. I also agree to remit payment of the remainder of the total ($21,500) to the State Cleanup and Abatement Fund. If the SEP proposal is not acceptable to the Executive Officer and upon receipt of the Executive Officer's letter denying the proposed project, I agree to pay the suspended liability of $345,500. I understand that failure to adequately complete the approved SEP will also require payment of the suspended liability of $345,500. I also understand that I am giving up my right to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed. I agree to conduct the SEP within a time schedule approved by the Executive Officer. I further agree to remit payment for the civil liability imposed within a three-year payment schedule after the waiver is signed.

[ ] ***Waiver of the right to a hearing and agree to propose a SEP and a CP***

By checking the box, I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. R2-2002-0016, and, in lieu of the administrative civil liability, to propose and complete a SEP and compliance project (CP) for the maximum amounts of suspended liabilities of $245,500 and $100,000, respectively. I also agree to remit payment of the remainder of the total ($21,500) to the State Cleanup and Abatement Fund. If the SEP and/or CP proposals is/are not acceptable to the Executive Officer and upon receipt of the Executive Officer's letter denying the proposed project(s), I agree to pay the suspended liabilities of $245,500 and $100,000, respectively. I understand that failure to adequately complete the approved SEP and/or CP will require payment of the suspended liabilities of $245,500 and $100,000, respectively. I also understand that I am giving up my right to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed. I agree to conduct the SEP and/or CP within time schedules approved by the Executive Officer. I further agree to remit payment for the civil liability imposed within a three-year payment schedule after the waiver is signed.

_____ _____

Name (print) Signature

_____ _____

Date Title/Organization

REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF ANALYSIS AND RECOMMENDATIONS

TO: Loretta K. Barsamian
Executive Officer

FROM: Eddy So
WRCE (D)

DATE: 4/15/2002 SIGNATURE:

SUBJECT: C&H Sugar Company, Crockett, Contra Costa County, Consideration of Administrative Civil Liability for NPDES Permit Violations, **Complaint No. R2-2002-0016**

CONCUR:

for Greg Walker
Section Leader

for Shin-Roei Lee
Division Chief

Wil Bruhns
Enforcement Coordinator

Reviewed for Legal
Form and Sufficiency:

Dorothy Dickey
Attorney

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SUMMARY

This recommendation for Administrative Civil Liability (hereinafter ACL) proposes that the Regional Board assesses penalties for violations of C&H Sugar Company (C&H)'s NPDES permit during the period between July 1, 1995 and December 31, 1999. Effluent limit violations between January 1, 2000 and December 31, 2001 are addressed in a separate Complaint No. R2-2002-0005. All NPDES permit violations addressed in this Staff Analysis and Recommendations can be categorized as follows:

a. Reported violations of effluent limitations.
b. False reports of compliance with the chlorine residual limitation. This means chlorine residual monitoring results that were initially reported by C&H as in compliance with the limitation, and were later corrected by C&H to report violations of the limitation. For the purpose of this enforcement action these events are considered as false reports of compliance between the initial and corrected report.
c. Reported violations of discharge prohibitions; and
d. Non-compliance with NPDES Permit with respect to Self-Monitoring Program (SMP) monitoring and reporting requirements. The incidents of non-compliance with NPDES Permit refer to C&H's failures to comply with the monitoring and reporting requirements specified in the SMP, and Standard Provisions and Reporting Requirements (SPRR) of August 1993. Both the SMP and SPRR are parts of C&H's NPDES permit.

C&H is responsible for the operation of its biological wastewater treatment plant (hereinafter the treatment plant), which was designed to treat combined wastewater from the sugar refinery and Crockett-Valona Sanitary District (CVSD). The Board issued an NPDES permit to C&H, together with the CVSD, in Regional Board Order No. 95-078. The permit contains discharge prohibitions, effluent limitations, provisions, and self-monitoring requirements for regulating discharges from the treatment plant and the refinery's cooling water system. This Complaint is issued to C&H only because C&H is solely responsible for proper operation and maintenance of the treatment plant to ensure the discharges comply with NPDES requirements. Hereinafter C&H is referred to as the Discharger.

The Discharger hired an outside firm to handle the day-to-day operations of the treatment plant. While violations noted in this Staff Analysis and Recommendations, particularly the false reports of compliance, were due to actions of an employee of the outside firm, this Complaint is directed to the permit holder and the ultimately responsible party, i.e., the Discharger. This is consistent with past Board practice not to enforce directly against discharger's contractors (a potentially overly cumbersome process), but rather directly against the permit holder.

All effluent limit violations and permit non-compliance with monitoring and reporting requirements are subject to a penalty under Section 13385(c) of the California Water Code (CWC), after consideration of the factors specified in CWC Section 13385(e), to determine the amount of penalty under the ACL. During the period under review, the Discharger violated effluent limitations contained in the permit 122 times resulting in a maximum total of 249 days of limit violations, and failed to comply with the SMP and reporting requirements 268 times that occurred on 147 days (see Table 1 below). The majority of these incidents of SMP non-compliance involved failures to monitor pH and temperature for cooling water discharges in accordance with the SMP requirements.

Of the 122 effluent limit violations, 59 counts were false reports of compliance with the chlorine residual limit; 56 counts were reported limit violations; and 7 counts were violations of discharge prohibitions of the permit. These effluent limit violations resulted in a discharge of 2,546 million gallons of inadequately treated wastewater from the sugar refinery and the treatment plant into Carquinez Strait, which is a water

of the state and United States. The violations of discharge prohibitions resulted in unauthorized discharges of at least 1,120 gallons of process liquids, diesel fuel, untreated wastewater, and truck wastewater to Carquinez Strait via storm drains.

Table 1. Summary of Permit Violations and Non-compliance Between July 1, 1995 and December 31, 1999

Type of Violation	Specific of Violation	Count	Days	Type of Non-Compliance	Specific of Non-Compliance	Count	Days
a. Reported Effluent Limitations	Daily maximum biochemical oxygen demand (BOD) loading limit	7	7	d. Failures to comply with SMP and reporting requirements	Monitoring of BOD, pH, temperature, etc.	257	136
	Monthly average BOD loading limit	4	120		Self-monitoring reports signed by unauthorized persons	11	11
	Chlorine residual (Cl2) limit	10	10		**Subtotal**	***268***	***147***
	Five-sample median total coliform limit	25	25				
	Stormwater pH limit	7	7				
	Bioassay test 90th percentile survival limit	1	1				
	Daily maximum oil and grease (O&G) concentration limit	1	1				
	Monthly average O&G concentration limit	1	31				
b. False Reports of Compliance	Chlorine residual limit	59	41				
c. Discharge Prohibitions	Unauthorized releases of sugar liquor, diesel, washwater, etc.	7	6				
	Subtotal	***122***	***249***				
					Total	***390***	***396***

The 59 false reports of compliance with the chlorine residual limit are of particular concern. These chlorine residual results were initially reported as complying with the effluent limit of 0.0 mg/L, and were subsequently reported by the Discharger as violations only after Board staff's on-site review of the operator logbook during an inspection of the treatment plant in August 1999. These false reports of compliance have been subjected to criminal investigation by federal agencies. As of this time, the former contractor hired by the Discharger as the treatment plant operation manager has pled guilty to at least one instance of false reporting and sentencing has yet to happen. The criminal investigation, and subsequent indictment and guilty plea are, however, separate and independent of this ACL, but are considered in the recommended assessment.

The above releases violated the Board's NPDES permit and posed a risk or threatened risks to the beneficial uses, public health, and aquatic life of the Carquinez Strait. Based on the following analysis, staff recommends that an ACL amount of **$367,000** be imposed to the Discharger. This ACL amount includes a staff cost of **$21,500**. In lieu of paying the full ACL amount, the Discharger could be allowed to complete (i) a supplemental environmental project, or (ii) a supplemental environmental project and a compliance project together.

I. BACKGROUND

The Discharger owns and operates a sugar refining facility at 830 Loring Avenue, Crockett, Contra Costa County. The refinery operates on a 14-day cycle with 10 days on and 4 days down, and produces process wastewater that has characteristics of high chemical oxygen demand and biochemical oxygen demand. The Discharger built the treatment plant at a location adjacent to the refinery property in the late 1970s to provide biological treatment, disinfection and dechlorination for the process waste. The treatment plant was designed to handle average dry weather and peak flows of 1.78 million gallons per day (MGD) and 3.1 MGD, respectively.

On November 9, 1976, the Discharger entered into a Joint-Use Agreement (JUA) with CVSD for the joint use of the plant. According to the JUA, the treatment plant provides secondary treatment for the process wastewater from the refinery and municipal sewage from CVSD. As part of the agreement, the Discharger assumed full responsibility for the treatment plant construction the operation and maintenance of the plant for a period of thirty years. The agreement provides that CVSD shares the equipment cost and reimburses a portion of the operational and maintenance cost to the Discharger. Cost sharing factors and calculation methods are defined in the JUA. Regarding the operation and maintenance responsibilities between the Discharger and CVSD, the JUA states, in part, that:

> "The District [CVSD] shall design, construct, operate, and maintain facilities to convey its wastes to the plant after pretreatment to remove grit and to remove or render harmless stringy or fibrous material or other material incompatible with the treatment process" (Section 3, page 10 of the JUA).
>
> "C&H shall perform in accordance with standard engineering practices all duties necessary and proper for the operation and maintenance of the plant to produce an effluent in compliance with applicable NPDES permits...." (Section 4, page 11 of the JUA)

Thus in accordance with the JUA the Discharger is solely responsible for the operation and performance of the treatment plant, and CVSD is responsible for the operation and performance of the sewage collection system outside the treatment plant. Although the Discharger hired a contract operator to operate the treatment plant, the contractor was under the Discharger's control and supervision.

Wastewater generated from the sugar refining process receives primary treatment, which consists of solids removal, on the refinery property. The primary-treated process waste is then pumped to a surge basin to mix with municipal wastewater. With the addition of nitrogen and phosphorous supplements, the combined wastewater is given biological treatment, dissolved-air flotation, disinfection, and dechlorination prior to discharging. The treated effluent is discharged at an average dry weather flow rate of 0.8 MGD via deepwater diffusers to Carquinez Strait, which is a water of the state. Of the 0.8 MGD flow, 0.53 MGD is sugar wastewater and 0.3 MGD is sewage from CVSD.

In addition to the discharge of treated effluent from the treatment plant, there are two other types of discharge from the refinery property. The first type consists of once-through barometric condenser cooling water, which is taken from Carquinez Strait, and other non-contact process water. These waters are discharged to Carquinez Strait via another deepwater outfall. The average flow rate of this discharge is 14 MGD. The second type of discharge consists of stormwater runoff from various locations of the refinery property and its vicinity. There are ten separate stormwater discharge outfalls throughout the refinery property. Although the permit allows the discharge of cooling water and stormwater with best management practices in place, it contains certain effluent limitations and prohibitions for these waste discharges.

II. NPDES PERMIT PROHIBITIONS AND EFFLUENT LIMITATIONS VIOLATED

The NPDES permit contains discharge prohibitions, effluent limitations, self-monitoring and reporting requirements to regulate discharges from the refinery and the treatment plant. The Discharger violated the following applicable discharge prohibitions and effluent limitations of the permit:

Discharge Prohibition A.1
The discharge of cooling water and treated effluent at any point at which the wastewaters do not receive an initial dilution of at least 10:1 is prohibited, unless as otherwise authorized by a permit issued by the Board for purposes such as water reclamation.

Discharge Prohibition A.3
The bypass or overflow of untreated or partially treated effluent to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited.

Discharge Prohibition A.4
Discharges of wastewaters, materials, or other wastes other than storm water which are not otherwise authorized by this Order, to a storm drain system or waters of the State are prohibited.

Effluent Limitation B.1 for refinery cooling water and treated effluent
Monthly average BOD loading: 3,096 lb/day
Daily maximum BOD loading: 8,568 lb/day

Effluent Limitation B.3 for treated effluent
Chlorine residual: 0.0 mg/L
5-sample median total coliform: 240 MPN/100 mL
Monthly average O&G: 10 mg/L
Daily maximum O&G: 20 mg/L

Effluent Limitation B.5 for stormwater runoff
Daily maximum pH range: 6.5 to 8.5

Effluent Toxicity Limitation B.6 for treated effluent
11-sample 90th percentile fish survival rates in 96-hour bioassay tests: minimum 70 percent

III. ENFORCEMENT CONSIDERATIONS

Section 13385(e) of the CWC requires the Board to consider various factors when issuing an ACL. These include the nature, circumstances, extent and gravity of the violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on its ability to continue its business, any voluntary cleanup effort undertaken, degree of culpability, prior history of violations, economic benefit or savings, and other factors justice may require. Board staff's consideration of these factors is discussed in detail in the following sections.

A. Factors for Consideration

1. Nature, Circumstances, and Extent of Violations

i) Violations of Effluent Limitations and Discharge Prohibitions

During the period under review, there were 59 false reports of compliance with the chlorine residual limit and 63 reported violations of effluent limitations and discharge prohibitions. Details of these violations including the dates of occurrences, magnitudes of limit excursions, and associated discharge volumes are summarized in Tables 2 through 5 below. Of the effluent limitation violations, Board staff is especially concerned about the false reports of compliance, as some of these exceedances of the chlorine residual limit are significant and false reports of compliance jeopardize the integrity of the Regional Board's SMP.

Table 2. Summary of False Reports of Compliance with Chlorine Residual Limit of 0.0 mg/L

Item No.	Date	Chlorine Residual Result (mg/L)	Discharge Volume (gallons)[1]	Item No.	Date	Chlorine Residual Result (mg/L)	Discharge Volume (gallons)
1	7/11/95	3.04	28,570	31	7/29/96	11.2	112,500
2	10/31/95	1.9	114,290	32	8/1/96	1.34	118,570
3	10/31/95	6.5	114,290	33	8/19/96	0.244	100,000
4	11/5/95	0.477	137,500	34	9/13/96	0.895	114,290
5	11/5/95	0.33	137,500	35	9/17/96	0.292	30,000
6	1/2/96	12.3	66,670	36	9/24/96	3.67	107,500
7	1/8/96	0.361	71,670	37	1/29/97	1.28	180,000
8	1/16/96	14.3	119,170	38	1/29/97	2.21	180,000
9	1/16/96	2	119,170	39	2/1/97	6.31	270,000
10	1/22/96	?[2]	31,740	40	2/1/97	0.673	270,000
11	1/16/96	3.54	119,170	41	4/14/97	12.5	96,670
12	1/29/96	0.866	99,170	42	7/9/97	2.37	135,000
13	2/11/96	2.23	79,290	43	7/13/97	3.33	118,570
14	2/11/96	1.3	79,290	44	7/13/97	3.7	118,570
15	2/11/96	2.3	79,290	45	7/20/97	0.115	21,430
16	2/12/96	1.3	137,140	46	9/26/97	3.79	155,000
17	2/12/96	0.59	137,140	47	2/8/98	2.02	87,500
18	2/26/96	2.3	28,890	48	2/24/98	4.5	120,000
19	3/3/96	1.08	117,500	49	3/2/98	6.32	80,000
20	4/8/96	2.14	137,500	50	3/2/98	5.37	80,000
21	3/12/96	3.67	147,500	51	3/2/98	6.26	80,000
22	3/12/96	4.36	147,500	52	3/2/98	5.2	80,000
23	3/12/96	10	147,500	53	3/9/98	2.56	110,000
24	4/8/96	2.38	137,500	54	3/15/98	3.2	100,000
25	4/8/96	1.14	137,500	55	3/19/98	4.81	118,750
26	5/18/96	0.135	152,860	56	3/19/98	8.1	118,750
27	5/6/96	?[2]	121,110	57	8/4/98	0.333	102,500
28	5/19/96	0.63	147,140	58	5/19/99	0.5	85,830
29	6/2/96	1.19	165,710	59	5/30/99	0.079	104,280
30	6/10/96	0.928	63,330				
		Subtotal	*3,322,600*			**Subtotal**	*3,395,710*
						Total	***6,718,310***

[1] Discharge volume associated with each chlorine residual excursion is estimated based on the measured daily flow rate divided by the reported number of hours of discharge on that day, and multiplied by 2 hours since the permit requires chlorine residual to be measured at 2-hour intervals.

[2] ? means the Discharger has not determined the exact concentration of chlorine residual.

Table 3. Summary of Reported Violations of Effluent Limitations

Item No.	Date	Specific of Violation	Discharge volume (gallons)	Violation of Effluent Limitation
1	11/21/96	5-sample median coliform (540) > limit (240 MPN)	1,180,000	B.3
2	11/29/96	5-sample median coliform (920) > limit (240)	1,020,000	B.3
3	12/3/96	5-sample median coliform (920) > limit (240)	1,040,000	B.3
4	12/5/96	5-sample median coliform (540) > limit (240)	1,040,000	B.3
5	1/9/97	Day max BOD load (23,020) > limit (8,568 lb/d)	27,600,000	B.1.a.
6	1/10/97	Day max BOD load (22,400) > limit (8,568 lb/d)	26,900,000	B.1.a.
7	1/14/97	Day max BOD load (58,227) > limit (8,568 lb/d)	21,500,000	B.1.a.
8	1/31/97	Monthly average BOD load (12,646) > limit (3,096 lb/d)	691,300,000	B.1.a.
9	2/6/97	Day max BOD load (9,667) > limit (8,568 lb/d)	26,700,000	B.1.a.
10	3/14/97	5-sample median coliform (350) > limit (240)	1,040,000	B.3
11	3/19/97	5-sample median coliform (540) > limit (240)	690,000	B.3
12	3/21/97	5-sample median coliform (540) > limit (240)	690,000	B.3
13	3/24/97	5-sample median coliform (1,600) > limit (240)	940,000	B.3
14	3/25/97	5-sample median coliform (540) > limit (240)	970,000	B.3
15	3/26/97	5-sample median coliform (1,600) > limit (240)	820,000	B.3
16	3/27/97	5-sample median coliform (1,600) > limit (240)	950,000	B.3
17	3/28/97	5-sample median coliform (1,600) > limit (240)	950,000	B.3
18	4/2/97	5-sample median coliform (540) > limit (240)	970,000	B.3
19	4/3/97	5-sample median coliform (540) > limit (240)	760,000	B.3
20	11/15/97	90-percentile bioassay result (65%)<limit (70%)	720,000	B.6
21	12/16/97	5-sample median coliform (540) > limit (240)	540,000	B.3
22	12/16/97	Day max BOD load (39,006) > limit (8,568 lb/d)	21,700,000	B.1.a.
23	12/17/97	5-sample median coliform (540) > limit (240)	680,000	B.3
24	12/18/97	5-sample median coliform (540) > limit (240)	840,000	B.3
25	12/29/97	5-sample median coliform (350) > limit (240)	780,000	B.3
26	12/31/97	Monthly average BOD load (13,565) > limit (3,096lb/d)	427,800,000	B.1.a.
27	2/5/98	Day max BOD load (51,806) > limit (8,568 lb/d)	17,700,000	B.1.a.
28	2/28/98	Monthly average BOD load (13,262) > limit (3,096 lb/d)	697,000,000	B.1.a.
29	8/6/98	5-sample median coliform (540) > limit (240)	400,000	B.3
30	8/7/98	5-sample median coliform (920) > limit (240)	950,000	B.3
31	8/8/98	5-sample median coliform (920) > limit (240)	910,000	B.3
32	8/11/98	5-sample median coliform (540) > limit (240)	960,000	B.3
33	8/26/98	Cl2 (9.97) > limit (0.0 mg/L)	146,670	B.3
34	9/17/98	Cl2 (8.26) > limit (0.0)	72,860	B.3
35	1/18/99	Cl2 (traces) > limit (0.0)	82,500	B.3
36	2/9/99	5-sample median coliform (1,600) > limit (240)	1,070,000	B.3
37	2/10/99	5-sample median coliform (1,600) > limit (240)	680,000	B.3
38	2/11/99	5-sample median coliform (1,600) > limit (240)	510,000	B.3
39	5/9/99	Cl2 (3.02) > limit (0.0)	117,140	B.3
40	5/17/99	Cl2 (3.02) > limit (0.0)	145,000	B.3
41	5/18/99	Cl2 (2.8) > limit (0.0)	64,440	B.3
42	7/7/99	Cl2 (3.02) > limit (0.0)	110,000	B.3
43	7/22/99	Day max O&G (28) > limit (20 mg/L)	870,000	B.3
44	7/31/99	Monthly average O&G (11) > limit (10 mg/L)	21,750,000	B.3
45	8/4/99	Cl2 (traces) > limit (0.0)	85,710	B.3
46	9/4/99	Cl2 (traces) > limit (0.0)	90,000	B.3
47	10/17/99	Cl2 (12 mg/L) > limit (0.0)	92,500	B.3
48	11/30/99	Day max BOD load (21,943) > limit 8,568 lb/d)	24,900,000	B.1.a.
49	11/30/99	Monthly average BOD load (5,632) > limit (3,096 lb/d)	510,000,000	B.1.a.
		Total	***2,538,826,820***	

Table 4. Summary of pH Limit Violations for Stormwater

Date	Specific of Violation	Discharge Volume (gallons)
2/28/96	Stormwater discharge E004 pH (4.1) < limit of 6.5	1,222
3/12/96	Stormwater discharge E004 pH (4.3) < limit of 6.5	2,144
12/26/96	Stormwater discharge E004 pH (5.1) < limit of 6.5	873
5/27/98	Stormwater discharge E004 pH (5.2) < limit of 6.5	947
5/28/98	Stormwater discharge E004 pH (5) < limit of 6.5	1,895
5/29/98	Stormwater discharge E004 pH (5) < limit of 6.5	695
11/16/99	Stormwater discharge E014 pH (5.4) < limit of 6.5	21,190
	Total	***28,966***

The required sampling frequency for chlorine residual is every two hours. For the false reports of compliance, there were cases in which multiple chlorine residual violations occurred on a single day (e.g. five violations on 11/5/1995, four violations on 1/16/1996, five violations on 1/29/1997, and four violations on 3/2/1998, etc.). In determining the number of days of violations of the chlorine residual limit, multiple violations for a single day are considered as one day of violation. Thus, the number of days of false reporting compliance with the chlorine residual limit (41) is less than the total count (59). The 10 reported chlorine limit violations and the 59 false reports of compliance with the chlorine residual limit contribute to 56% of the total effluent limit violations in the period. The treatment plant operators manually control disinfection and dechlorination with dosages of sodium hypochlorite (chlorination chemical) and sodium bisulfite (dechlorination chemical), respectively. In a normal treatment plant operation day there is no treated effluent discharged during part of the night. Instead, the biologically treated wastewater is stored in the chlorine contact channels. Effluent discharge, however, may occur if there is a high wet weather inflow that exceeds the in-plant storage capacity or storage tanks are not available due to maintenance.

Based on the information provided by the Discharger, Board staff believed that the probable causes of chlorine limit exceedances were equipment failure, pipeline/valve blockages, and operating errors. For instance, on several occasions, the treatment plant operator turned on the valve for sodium bisulfite dosage, used for dechlorination, and left it open until the chemical storage tank ran empty. Without checking the tank content for the dechlorination chemical, the operator commenced dosage of chlorination chemical and discharged effluent the next day. Such operator negligence led to chlorine residual limit violations due to inadequate dechlorination by sodium bisulfite.

There were 7 violations of the daily BOD loading limit and 4 violations of the monthly BOD loading limit. These BOD limit violations were caused by high sugar concentrations in the sugar refinery's cooling water discharges. Because the cooling water is discharged at an average flow rate of 14 MGD, which is significantly larger than the 0.83 MGD average dry weather flow rate of the treated effluent, a slight increase in BOD concentration in the cooling water discharge might cause the exceedance of the BOD loading limit portion for the Discharger. The Discharger had similar BOD violations in the early 1980s. The probable cause for the elevated BOD concentration in the cooling water discharge was that concentrated sugar vapors entered the cooling water stream in the barometric condensers. These sugar vapor losses are usually due to a failure of the production operator to adequately control the process or equipment malfunction. A short duration loss of sugar vapor could cause violation of the daily maximum BOD loading limit. A long duration loss could cause violations of both daily maximum and

monthly average BOD loading limits. As shown in Table 3 above, the high daily maximum BOD loading results caused exceedances of the monthly average BOD loading limit in the corresponding months.

According to guidance issued by the U. S. Environmental Protection Agency (USEPA) dated September 27, 1989 in determining the maximum penalty for a violation of a monthly average limit, each day in the month is counted as a violation. During the period under review, there were four violations of the monthly average BOD loading limit, these result in a total of 120 days of violation: 31 days in 1/1997, 31 days in 12/1997, 28 days in 1998, and 30 days in 11/1999. A violation of the monthly average oil and grease concentration limit in 7/1999 also results in a total of 31 days of violation. This determination is consistent with the USEPA guidance, although the Board is not bound by the guidance. The Discharger could have increased the sampling frequency during the period in an effort to bring down the monthly average values of the corresponding pollutant parameters but did not do so.

Table 5. Summary of Violations of Discharge Prohibitions

Date	Specific of Violation	Discharge Volume (gallons)	Violation of Discharge Prohibition
7/12/96	Untreated wastewater to storm drain	Unknown	A.4
5/28/97	Truck wash water to storm drain	Unknown	A.4
5/28/97	Effluent discharge w/o 10:1 dilution	Unknown	A.1
9/10/97	Diesel spill from sugar loading dock	100	A.4
4/15/98	Sugar liquor spill to storm drain	20	A.4
6/11/98	Sugar liquor spill to storm drain	100	A.4
7/30/98	Wastewater spill to storm drain	900	A.3
	Total	***1,120***	

As shown in Table 5 above, the Discharger also violated Discharge Prohibitions that prohibit bypass and release of untreated or partially treated wastewater, waste or material other than stormwater, to waters of the State on 7 days. Previously, the Discharger had similar violations of Discharge Prohibitions that were caused by unauthorized releases/spills of sugar liquor and untreated wastewater to Carquinez Strait. In 1995 the Regional Board issued a civil liability complaint to the Discharger for these previous release/spills. Most of the discharges of sugar liquor, which contains high BOD content in the 1000s' mg/L range, and untreated wastewater that contains high solid content, were caused by equipment/pipeline failures.

Table 6. Violations of Effluent Limitations and Discharge Prohibitions Per Year

Year	Reported Violations of Limits	False Reports of Compliance with Chlorine Residual Limit	Violation of Discharge Prohibitions	Total Number of Violations
7/1/1995 – 12/31/1995	0	5	0	5
1996	7	31	1	39
1997	22	10	3	35
1998	11	11	3	25
1999	16	2	0	18
Total	***56***	***59***	*7*	***122***

Table 6 above provides an annual breakdown of these violations. It appears that most of the violations occurred between 1996 and 1998. The Discharger did not provide an explanation for this trend.

ii) Non-compliance with SMP and Reporting Requirements

Details of the 268 counts of non-compliance with SMP and reporting requirements are tabulated in Appendix A of this report. Although there were 268 counts of non-compliance with the SMP and reporting requirements, 96% of these incidents were attributed to the failures of measuring required parameters for the discharges of cooling water and treatment plant effluent. Of these incidents of monitoring non-compliance, 192 counts (75%) resulted from the failures of measuring temperature and pH of the cooling water discharge from the sugar refinery. Non-compliance with the SMP and reporting requirements undermined the Board's ability to ensure the Discharger's compliance with the permit conditions. Therefore, Board staff recommends that the Discharger be penalized for failing to comply with the SMP and reporting requirements.

2. *Gravity of Violations and Toxicity of Discharge*

The Discharger's permit violations are significant, especially the false reports of compliance with the chlorine residual limit. The recurrence of falsely reporting compliance has significantly undermined the integrity of the self-monitoring system that the Regional Board has long implemented as required by the NPDES program. Additionally, the discharge of over 2.5 billion gallons of partially treated wastewater from the refinery and the treatment plant during the period under review may have impacts on the water quality and beneficial uses of the receiving water. The following sections discuss the adverse effects of these violations on the Regional Board's NPDES program and the water quality of the receiving water.

i) Program Impacts By False Reports of Compliance

The self-monitoring program is an important element of the NPDES program in the Regional Board's efforts to protect water quality and beneficial uses of San Francisco Bay including Carquinez Strait. The Discharger is required to report all permit violations, the conditions leading to the violations, and any corrective actions taken or to be taken to prevent the violations from recurring. The Discharger's failures to report 59 counts of chlorine residual violations on 41 days during the period under review have undermined the integrity of the monitoring system and jeopardized the reliability of the NPDES program, and have adversely affected the Board's ability to determine the Discharger's permit compliance status.

ii) Water Quality Impacts by Partially Treated Wastewater Discharge

The discharge of over 2.5 billion gallons of partially treated wastewater from the Discharger's refinery and the treatment plant may have impacts on the water quality and beneficial uses of the receiving water. The 1995 Water Quality Control Plan for the San Francisco Bay Basin (hereinafter the Basin Plan) establishes water quality objectives for the protection of beneficial uses of Carquinez Strait. The beneficial uses include:

- Water contact and non-contact recreation
- Navigation
- Commercial and sport fishing
- Wildlife habitat
- Estuarine habitat
- Preservation of rare and endangered species
- Fish spawning and migration

- Industrial service and process supply

Order No. 95-078 prescribes the appropriate effluent limitations to regulate the discharges from the refinery and treatment plant so that the above beneficial uses will be protected. During the period under review, the Discharger repeatedly violated effluent limitations for chlorine residual, BOD, oil and grease, total coliform, and pH. As detailed below, the Discharger's violations may have caused impacts, or potential impacts, to the water quality and beneficial uses of the receiving water, depending on their natures, concentrations and potential toxicities to aquatic life.

a) Chlorine Residual Violations

As noted above, the Discharger violated the chlorine limit on 51 days (41 days of false reports of compliance and 10 days of reported violations). These violations are significant not only in magnitude of exceedances (the highest and average concentrations are 14.3 mg/L and 3.5 mg/L, respectively) but also chlorine is a very toxic pollutant to fish. The USEPA National Ambient Water Quality Criteria (NAWQC) for saltwater aquatic life protection are 0.0075 mg/ for continuous concentration, and 0.013 mg/L for maximum concentration. The continuous concentration and maximum concentration criteria are measures of chronic and acute toxicity of a pollutant. For freshwater aquatic life protection, the corresponding USEPA NAWQC continuous and maximum concentrations are 0.011 mg/L and 0.019 mg/L, respectively. These low levels of water quality criteria for the protection of marine and freshwater aquatic life indicate that chlorine exhibits both acute and chronic toxicities to aquatic life. In the 51 days of violations of the chlorine residual limit, the Discharger released a total of 7.7 million gallons of wastewater containing average chlorine residual at 3.5 mg/L to the receiving water. This average level of chlorine residual in these discharges far exceeds the above USEPA recommended water quality criteria for freshwater and marine aquatic life protection. Thus, Board staff believed that the Discharger's releases of effluent with chlorine residual concentrations exceeding the chlorine residual limit during the period under review had potential impacts on the receiving water quality and aquatic life.

b) BOD Violations and Sugar Liquor/Process Water Spills

The Discharger violated the BOD daily maximum loading limit on 7 days, and the BOD monthly average loading limit four times. These limit violations are all related to elevated BOD levels in the cooling water discharge from the refinery. Also, the four unauthorized releases of sugar and process waste into Carquinez Strait violated the discharge prohibitions in the permit. The four sugar and wastewater spills occurred during the period under review have also caused a release of high sugar waste, which typically contains thousands of milligrams per liter of BOD content. BOD is a measurement of the dissolved oxygen consumed by microorganisms in biochemical oxidation of organic matters. Fish and other aquatic animal species require oxygen, and a waterbody must have a minimum of about 2 mg/L of dissolved oxygen to maintain higher life forms. At least 4 mg/L of dissolved oxygen is required for game fish, and some species may require more. The large BOD loading exerted by the discharge of cooling water from the refinery and the four spills could deplete dissolved oxygen below acceptable levels, which may lead to short-term stress to certain aquatic life, at the point of discharge in the receiving water. However, any adverse effect caused by the Discharger's BOD violations may be short-term only, due to the large natural dilution in the receiving water.

c) Oil and Grease Violations and Diesel Spill

The Discharger violated the oil and grease daily maximum limit once, which also caused simultaneous violation of the monthly average limit. Additionally, the Discharger also violated the discharge prohibition upon the unauthorized release of 100 gallons of diesel fuel to the receiving water during the period under review. It is well documented that oil-laden wastewater causes adverse effects on waterfowl and aquatic species. These pollutants, once released to a waterbody, may persist in the medium for some time. The Discharger's releases of waste containing these pollutants in violation of the permit requirements had the potential to cause adverse impacts to water quality and aquatic life in the receiving water. Although the natural dilution in the receiving water is large compared to the volume of these discharges, the persistent nature of diesel fuel may extend the duration of any adverse effect in the waterbody.

d) pH Violations

The Discharger violated the pH limit for stormwater six times during the period under review. The discharge of low pH water below the minimum allowable limit of 6.5 had the potential to cause short-term stress to aquatic life at the point of discharge. Due to the small volumes of discharges, Board staff believed the Discharger's six violations of this limit might have limited impacts to the receiving water.

e) Total Coliform Violations

The Discharger violated the 5-sample median total coliform concentration limit 25 times during the period under review. The moving median concentration limit is to maintain the treatment plant's long-term performance. As noted in Table 3 above, the Discharger violated the 5-sample median total coliform limit every year from 1996 through 1999. The recurring exceedances of the 240 MPN/100mL indicate that the Discharger was not able to operate the chlorination system properly to ensure effective disinfection of the treatment plant effluent. While total coliform may not cause any toxic effect to aquatic life in the receiving water, the discharge of effluent containing high total coliform concentration may be a health concern since the listed beneficial uses of Carquinez Strait include water contact and non-contact recreation. The Discharger had the responsibility to properly control the disinfection system to produce an effluent capable of complying with the total coliform limit.

f) Effluent Toxicity Violation

The permit contains two effluent toxicity limits expressed as minimum survival rates of fish subject to bioassay test. It requires the Discharger to perform bioassay tests on a monthly basis to determine if the treatment plant effluent is toxic to fish. One of the limits is that the eleven-sample 90-percentile minimum fish survival rate is 70%, which is defined in the Permit that if there were one or more of the past ten or less tests showing less than 70 percent fish survival, the Discharger will be in violation of this 90-percentile limit. The Discharger failed to maintain at minimum 70% fish survival in the bioassay tests (65% and 0%) conducted on 7/1997 and 11/1997, respectively, as in contrast with the 100% fish survival rates in the corresponding control tanks. The low fish survival rates in the effluent test tank indicate that the treatment plant effluent might be toxic and could have impacted aquatic life in the receiving water.

iii) Failures to Monitor and Self-Monitoring Reports Not Properly Signed

The Discharger's 268 incidents of non-compliance with the SMP and reporting requirements are unacceptable. Most of these non-compliance incidents are due to the Discharger's failure to monitor the pH and temperature parameters for the cooling water discharge. Based on the

Discharger's historical records and data trend for these two pollutant parameters, Board staff believed that these non-compliance incidents may not have caused significant impacts to the water quality of the receiving water. Nevertheless, the Discharger's recurring incidents of non-compliance with the SMP and reporting requirement have not only undermined the Board's ability to determine the Discharger's compliance but also become an equity issue as other permittees are required to comply with their self-monitoring programs.

3. *Discharge Susceptible to Cleanup and Abatement*

The discharges associated with the violations described above were not susceptible to cleanup and abatement. Once effluent is discharged into the Strait, it is impractical to contain the wastewater and abate its effects on the environment. Therefore, the Discharger was not able to contain and clean up the discharge in these violations.

4. *Degree of Culpability*

As the sole operator, the Discharger was responsible for supervising the operators, including the contracting operator, at all times to ensure proper operation and maintenance of the treatment plant and the refinery cooling system so that discharges from these facilities complied with the limitations and conditions of applicable NPDES permit. The Discharger was responsible for preventing or minimizing the occurrence and recurrence of most, if not all, the abovementioned effluent limit violations and permit non-compliance. In addition, the Discharger was solely responsible for the submission of true and accurate self-monitoring reports to the Regional Board so that Board staff could determine the Discharger's permit compliance status. The Discharger had full access to the treatment operation logbook for information verification if there was a need for doing so. But the recurrence of false reports of compliance with the chlorine residual limit and most of the other violations confirms that the Discharger did not monitor the performance of the treatment plant and cooling water system properly. For the reasons discussed below, Board staff believed that the Discharger was culpable for the violations cited in the Complaint.

For the time period under review, the Discharger did not operate its plant with its own personnel, but has rather contracted for operations with a large and respected firm, Parsons Engineering. Under this arrangement, Parsons employees ran day-to-day operations, including sampling, analysis, and preparation of monitoring reports. The role of the Discharger was to oversee the work of its contractor, and to submit the monitoring reports to the Regional Board. As discussed below regarding chlorine violations, the Discharger attributes the misreporting of chlorine violations to the unauthorized behavior of one contractor's employee.

i) <u>False Reports of Compliance</u>

The first false report of compliance with the chlorine residual limit occurred in July 1995. During the period under review, the Discharger had a total of sixty-nine (69) chlorine limit violations, of which 59 counts occurred on 41 days and were not reported. Instead, these 41 days of chlorine limit violations were reported as being in compliance. These false reports of compliance were not disclosed to the Regional Board, until after Board staff identified them during an inspection of the operator logbook at the treatment plant in August 1999. Although the Discharger claimed that the false reports of compliance were the fault of the contracting operator and thus the Discharger should not be liable for them, Board staff believed that the Discharger was responsible for, and in control of, the operator. It was the Discharger's responsibility to ensure that the operator logbooks and monitoring data submitted by the contract operator were

true and accurate. If the Discharger had scrutinized its contract operator more closely, the false reports and chlorine residual violations could have been avoided. The Discharger's lack of close monitoring and control of the operator performance was an important factor contributing to the false reports of compliance and continued chlorine violations.

The Discharger's failures to properly monitor and control the contract operator that led to false reports of compliance for almost four years until Board staff's intervention has undermined the Board's ability to determine the Discharger's compliance status and has jeopardized the integrity of the self-monitoring system and the Regional Board's NPDES Program. The Discharger's excuse that it was not responsible in this matter is unacceptable, and therefore, is culpable for falsely reporting compliance with the chlorine residual limit for 41 days during the period under review.

Due to the severity of these limit exceedances and the adverse effects on the integrity of the self-monitoring program caused by the Discharger's failures to report violations of the chlorine residual limit, Board staff recommends a penalty rate of $10,000 per day for the 41 days of violations of the chlorine residual limit and false reports of compliance. The recommended penalty is to also deter similar violations in the future.

ii) Reported Violations
For the reasons discussed below, Board staff believed that the Discharger was also culpable for the reported violations cited in the Complaint:

a) Chlorine Residual Violations
The recurrence of chlorine residual limit violations during the period under review indicates that the Discharger did not closely monitor the treatment plant performance and properly supervised the contract operator. In addition, the Discharger's "Dechlorination System Assessment" report (DSA Report) of July 23, 2001 identifies four main causes of the discharge of residual chlorine. These include supply of chemical for dechlorination, dechlorination control system, chemical feed equipment, and reliability measures. However, Board staff believed that these causes could be attributed to the fact that the existing chlorination-dechlorination and monitoring system is unreliable and prone to human errors. This is further explained as follows:

The Discharger used, and continues to use, sodium hypochlorite as disinfecting agent (or chlorinating agent) and sodium bisulfite as dechlorinating agent. As noted before, the Discharger chose to cease effluent discharge during nighttime and store effluent in the chlorine contact channels during the no-discharge time. Before the commencement of discharge on the next morning, the operator usually dechlorinates the stored effluent, which has been chlorinated prior to, or sometimes during, the nighttime storage. Sodium bisulfite is fed at a fixed rate using a variable frequency drive pump. Violations of chlorine residual limit occurred due to a combination of factors such as dosage system failures as a result of sodium bisulfite plugging in pipelines/valves/injection diffuser, equipment malfunctions, and the inherent difficulties and delay in control of chlorine residual by laboratory analysis and manual adjustment of chemical feed. Board staff believed that most of these could be attributed to operator errors.

Had the Discharger closely monitored the treatment plant performance, they should have considered other corrective measures to mitigate the chlorine residual violations. One possible way to reduce or even avoid these violations is to require the treatment plant

operator to closely monitor chlorine residual in the effluent and provide timely response to any measured exceedance. Another probable solution to this problem is to consider the adoption of automation technology for monitoring and control of chlorination-dechlorination system. Although it is not required in the Discharger's permit, automatic control has been widely used in wastewater treatment for chlorination-dechlorination system. An advantage of automatic control is that it is less prone to human errors. In the DSA Report, the Discharger recommends the use of automatic control to improve the dosage and monitoring for their chlorination-dechlorination system.

b) BOD Violations

The Discharger is culpable for all BOD violations cited in the Complaint. As described earlier, all BOD loading limit violations result from elevated BOD concentrations in the refinery cooling water discharge. The Discharger had full control of the refinery cooling system, and had the responsibility to properly operate and monitor the sugar refining process to ensure that the discharge of cooling water complies with the BOD limit specified in the permit. Should a violation of the daily maximum BOD loading limit be eminent or detected, the Discharger had the obligation to accelerate the monitoring frequency until compliance resumed. According to Section C.2.e of SMP, Part A, of August 1993, "if any maximum daily limit is exceeded, the sampling frequency shall be increased to daily until two samples collected on consecutive days show compliance with the maximum daily limit". By accelerating the monitoring frequency, it is possible for the Discharger to bring down the monthly average BOD loading to a value below the corresponding monthly average loading limit. The Discharger did not do so. Board staff believed that the Discharger failed to exercise due care and good faith efforts in preventing and mitigating these BOD violations.

c) Oil and Grease Violations

The Discharger was not able to identify the cause of violations of the oil and grease limits that occurred in July 1999. The exceedance of the daily maximum oil and grease concentration limit on July 22, 1999 also contributed to the exceedance of the corresponding monthly average limit. Although the Discharger indicated that the refinery process wastewater typically contains food-grade sugar and the presence of oil and grease was unlikely, there was an active oil-water separator located at the loading dock. Wastewater collected from the loading dock was sent to the oil-water separator for oil removal before being pumped to the treatment plant for further treatment. The Discharger had full control and responsibility to properly operate both the oil-water separator and the treatment plant to ensure that the effluent discharge complied with the oil and grease limit contained in the permit. Additionally, the Discharger had the obligation to accelerate the monitoring frequency until compliance resumed. As indicated above, Part A of the SMP requires that if any maximum daily limit is exceeded, the sampling frequency shall be increased to daily until two samples collected on consecutive days show compliance with the maximum daily limit. By accelerating the monitoring frequency, it was possible for the Discharger to bring down the monthly average oil and grease results to a value below the corresponding monthly average loading limit. The Discharger did not do so. Thus, although the actual cause of oil and grease violations is unclear to-date, the Discharger is culpable for these violations of oil and grease limits specified in the permit.

d) pH Violations

All except one violation of the pH limit were caused by previous stormwater discharges at outfall E-004 in 1996 and 1998. The stormwater collection sump and inlet are located within the refinery warehouse area. In August 1998, the Discharger permanently sealed off this

outfall and began to divert storm water runoff collected within the sump to the treatment plant for treatment. On several occasions prior to the Discharger's completion of the diversion project, Board staff had noticed that sugar powder was left on the ground in the vicinity of the sump inlet. The accumulation of sugar and stormwater runoff in the underground sump might result in anaerobic breakdown of the sugar by microorganisms under appropriate conditions such as the lack of airflow in the sump. The anaerobic reaction might generate acid as a byproduct, leading to low pH in stormwater. Although this is a plausible explanation for the pH violation, there may be other reasons. In any event, the Discharger had full control of the stormwater collection sump. If the Discharger had implemented best management practices to maintain the cleanliness of the area around the sump and implemented the stormwater flow diversion sooner, such exceedances of the stormwater pH limit might not have occurred. Thus, the Discharger is culpable for the pH violations.

e) Total Coliform Violations

The Discharger, being responsible for the operation of the treatment plant, is culpable for the 25 counts of violations of the 5-sample median total during the period under review. These total coliform violations are probably due to ineffective disinfection of the biologically treated effluent. A plausible explanation for ineffective disinfection is that the presence of suspended solids in treated effluent prevents the disinfecting agent from contact with and killing the bacteria. The flow rate and solid content of the sugar waste from the refinery typically has always been higher than the sewage from CVSD. Inadequate biological treatment of and solid removal from the combined waste may have adversely affected the efficiency of disinfection, which takes place in the chlorine contact chamber. During inspections of the treatment plant on several occasions, Board staff observed noticeable amounts of floating solids in all five chlorine contact channels. These observation results support the plausible explanation that these total coliform violations may be caused by ineffective disinfection. The recurrence of this type of violation during the period indicates that the Discharger did not closely monitor the contracting operator and the treatment plant performance.

Additionally, the Discharger's permit specifies a daily maximum limit and a moving median limit for total coliform for a reason, which is to protect against both large short-term exceedances and smaller longer-term exceedances of the effluent limits. Because the high medians were from a different set of five-samples, the total coliform violations, as shown in Table 2 above, indicate the plant operator had not responded quickly enough to increase the chlorine dosage. The Discharger also had the responsibility and opportunity to investigate and mitigate the cause of continuous violations of the total coliform limit during the period. The Discharger did not do so. Instead, the Discharger claimed that the sewage from CVSD is the source of total coliform in the effluent, and therefore should not be liable for the violations. Board staff believed that, irrespective of the source of total coliform, the Discharger had the responsibility to operate and maintain the treatment plant such that the effluent discharge complies with the 5-sample total coliform limit.

f) Effluent Toxicity Violation

The one violation of the effluent toxicity 90^{th} percentile limit was attributed to the Discharger's failure to maintain the minimum fish survival rates above 70% in two of eleven 96-hour flow-through type bioassay tests. Although the Discharger asserted that the low fish survival rates in the test tanks were due to bad batches of fish instead of effluent toxicity, the assertion was not supported, as there were no similar fish death rates in the

corresponding control tests. The low fish survival rates in effluent test tanks but high survival rates in control tanks indicated that the effluent might be toxic. Since there is no conclusive evidence regarding the actual cause of the violation of the effluent toxicity limit, Board staff believed it was the Discharger's responsibility to ensure that the discharge of effluent from the treatment plant complied with the effluent toxicity limit.

g) Spills of Sugar Liquor, Washwater, and Untreated Wastewater

As shown in Table 5 above, there were 7 spills of sugar waste, untreated wastewater and other unauthorized releases during the period under review. These spills and unauthorized releases violated the discharge prohibitions contained in the Discharger's permit. Among these, the spill of 900 gallons of untreated wastewater containing 0.04% sucrose content on July 30, 1998 resulted from equipment malfunction and the lack of automatic control to prevent the overflow of wastewater tank. The other releases of sugar liquor on April 15 and June 11, 1998 were due to the refinery operators' failures to follow proper operating procedures. Although the total volume of discharges in these incidents were only 120 gallons, the high percentage of solids and BOD content in these discharges might cause impacts, or potential impacts, to the water quality at the point of discharge. The 100-gallon spill on September 10, 1997 was a release of diesel fuel from the loading dock to Carquinez Strait, resulting in oil sheen on the water surface outside the loading dock.

Because all these spills occurred on the refinery property, the Discharger had full control of the labor and equipment involved in these spills and releases. All these unauthorized releases could have been avoided if the Discharger had implemented proper best management practices and upgraded its production equipment and pipelines in a timely manner. The Discharger did not do so, and sugar liquor spills still occur to-date. Thus, the Discharger is culpable for all these violations of the discharge prohibitions.

iii) Failure to Monitor and Self-Monitoring Reports Not Properly Signed

The Discharger is responsible for complying with the SMP and reporting requirements. Prior to the submittal of the reports, the Discharger had the opportunity to verify the sampling results with the contract operator to ensure that all information provided by the latter is true and correct. Additionally, the permit requires the Discharger to have the monitoring reports signed by an authorized person from the company. The self-monitoring program requires the Discharger to monitor the levels of appropriate pollutants in the refinery cooling water and treated effluent discharges. The Discharger failed to comply with the self-monitoring program and reporting requirements for 147 days during the period under review. Being responsible for the operation of the treatment plant and the refinery production, the Discharger is culpable for all of these incidents of non-compliance.

5. *History of Violations and Enforcement*

The Regional Board previously took enforcement actions against the Discharger for its violations of the permit. These included the Board's imposition of an ACL Complaint for the violations of the Discharger's preceding permit, and issuance of three Notices of Violations (NOVs) regarding the Discharger's permit compliance problems.

a) Previous ACL Complaint

On April 7, 1995, the Regional Board issued Complaint No. 95-073 for administrative civil liability in the amount of $24,000 to California and Hawaiian Sugar Company (the predecessor of C&H Sugar Company). That Complaint alleged the Discharger in violation of effluent

limitation and discharge prohibitions ten times between March 1991 and May 1995. Of these ten violations, nine were caused by unauthorized releases or spills of sugar liquor and untreated process wastewater to Carquinez Strait, and one was caused by discharge of low pH effluent to the same waterbody. The nine unauthorized releases were either from tanks or broken pipelines. Aging production equipment and pipelines is the major cause for these unauthorized releases. The total volume of spilled sugar liquor and untreated process wastewater to Carquinez Strait was 14,900 gallons. Unauthorized releases of sugar waste or sugar liquor continued to happen during the period under review. It is obvious that the Discharger has an on-going problem of unauthorized releases of sugar liquor and untreated wastewater.

b) Previous Notices of Violations

On April 14 and May 14, 1998, Board staff issued two Notices of Violation (NOVs) to the Discharger concerning the substandard report quality of ten self-monitoring reports submitted between June 1997 and March 1998. Although the Discharger previously agreed to improve future report quality and effluent monitoring efforts, their compliance did not improve. On September 21, 1998, Board staff issued a third NOV for the Discharger's recurring substandard report quality and permit compliance problems. The third NOV also requested a plan of action from the Discharger to prevent the recurrence of the submittal of substandard self-monitoring reports and to improve permit compliance. In response to the NOV, the Discharger denied any significant permit compliance problems. They further stated that there was no need to deploy better-trained personnel or additional resources to improve their permit compliance. Board staff did not agree with the Discharger's denial.

It is the Discharger's responsibility to assure that proper monitoring and reporting as required by the permit are followed to demonstrate compliance. Considering the large number (268 incidents) and continuing failure to comply with the SMP and reporting requirements after three NOVs, Board staff believes it is necessary and reasonable to impose a fine for these non-compliance incidents to deter the Discharger's future inaction and unresponsiveness.

c) Historical BOD Violations

Historically the Discharger had significant compliance problem with its cooling water BOD loading. The BOD limit compliance problem could be traced back to the early 1980s. At that time, the Discharger reported a total of 45 incidents of BOD limit violations caused by the discharge of cooling water with elevated BOD concentration. According to the Discharger, the probable cause for these violations was due to the contact of cooling water with process vapor. Although the Discharger implemented some system improvements since the early 1980s, the recurrence of BOD limit exceedances during the period under review indicated that the Discharger was not successful to prevent these violations from happening.

6. *Other Factors Justice May Require*

In calculating the final ACL amount, Board staff also considered other factors that are summarized in following sections and Section B (Penalty Assessment) below.

i) Voluntary Cleanup Effort

Since the discharges associated with these violations were to Carquinez Strait, none was contained and susceptible to cleanup. As such the Discharger could not undertake any voluntary cleanup effort for the environment in which the discharge occurred. However, the Discharger did some limited containment the two sugar-liquor spills in 1998 to minimize the volumes of discharge to Carquinez Strait.

ii) Significance of False Reports of Compliance
The practice of falsely reporting compliance undermines the Board's ability to determine the Discharger's permit compliance status, and is unacceptable. It jeopardizes the Regional Board's reliance on and the integrity of the self-monitoring program. Considering (i) the magnitude of these exceedances, (ii) the toxicity of chlorine to aquatic biota community, (iii) multiple occurrences of limit exceedance on several days, (iv) the recurrence of violations during the period under review, and (v) that the limit exceedances were not known until Board staff discovered the violations recorded in the operator log, Board staff believes it is reasonable to impose a maximum fine for each day of the false reports of compliance with the chlorine residual limit.

The evidence before the Board does not suggest that the Discharger knowingly concealed the limit exceedances, therefore the staff does not recommend that the Board request the Attorney General seek judicial enforcement (which as noted below could result in the imposition of substantially higher penalties).

iii) Citizen Action
A state sportsfishing group notified the Discharger in August 2000 that it intended to sue the sugar refinery over these permit limit violations. The citizen action resulted in an undisclosed settlement between the Discharger and the sportsfishing group.

iv) Responsible Party
Being solely responsible for hiring the contracting operator to operate the treatment plant, the Discharger was responsible for overseeing the operator and the treatment plant performance. The Discharger had the ultimate responsibility to assure that any discharge from the treatment plant or the refinery cooling system complied with the NPDES permit requirements. Although the NPDES permit was issued to both the Discharger and CVSD, CVSD had no day-to-day control of the treatment plant operation. Thus, for the reasons discussed above, the Discharger is fully liable for the violations and non-compliance.

The Discharger was cooperative and responsive to Board's requests for information during the preparation of this civil liability action. Additionally, the Discharger committed to upgrading the chlorination/dechlorination system with automated controls for chemical dosages and chlorine residual monitoring. Given the consideration of the Discharger's proactive commitment and cooperative attitude, Board staff recommends the initial ACL as discussed below be reduced.

B. Penalty Assessment

1. Statutory Maximum Penalty

The California Water Code provides several enforcement remedies for discharges in violation of Board-issued NPDES permits:

(1) Impose Administrative Civil Liability pursuant to Section 13385.
(2) Refer to the Attorney General to request a superior court impose civil liability pursuant to Section 13385.

Section 13385 sets a maximum liability of $10,000/day and $10/gallon for the discharge volume that is not cleaned up, or is not susceptible to cleanup, and that exceeds 1,000 gallons. If this

matter is referred to the Attorney General, a liability of $25,000/day and $25/gallon can be imposed by a court.

2. *Initial ACL Assessment*

Considering all the factors above, the initial penalty assessment recommended for the abovementioned violations is $445,500. This amount includes a high penalty for each of the 41 days of false reports of compliance with the chlorine residual limit and a moderate penalty for the other reported effluent limit violations and permit non-compliance. In addition to the factors discussed above, there are additional factors that adjust the initial ACL amount. These factors, as discussed in the following sections, include the consideration of any economic benefits derived from the violations, Board staff's cost in preparation of the Complaint, the Discharger's ability to pay and the effect of the ACL amount on its ability to continue its business.

3. *Economic Benefits*

For violations that occurred before January 1, 2000, the Regional Board is authorized, but not required, to recover any economic benefits a discharger derived from the acts that constituted violations. Board staff believed that the Discharger might not have realized economic benefits from the abovementioned violations. During the period under review, the Discharger hired a contracting company that provided state-certified operators including a Grade V manager to oversee the operation of the treatment plant. The treatment plant was designed with a manual control system for chlorination and dechlorination. As the permit did not mandate the use of automated control for chlorination and dechlorination as the minimum treatment performance, the Discharger's choice of using manual control over automated control was not construed as an act of postponement. In fact, if the operator monitored the treatment plant performance properly and closely, the abovementioned chlorine residual limit violations might have been avoided. Since the Discharger had already paid the contracting company for providing certified and trained operators to oversee the treatment plant operation, Board staff believed the Discharger had realized no or very little economic benefit as a result of abovementioned effluent limit violations.

Board staff also believed that the Discharger did not realize any economic benefit as a result of the cooling water BOD limit violations, unauthorized releases of sugar and other wastewater to the receiving water, and non-compliance with SMP and reporting requirements. This was based on the consideration that most of these violations were probably caused by refinery operators' occasional inattention to the control of the sugar refinery process. Although most, if not all, of the unauthorized releases were caused by mechanical failures of the refinery equipment conveyance pipelines, these infrastructures are not part of the wastewater collection and treatment system. The NPDES permit did not require the Discharger to upgrade or replace the refinery production and conveyance system.

4. *Staff Cost*

Regional Board staff time to investigate the violations and prepare the Complaint and this staff report totaled 215 hours, at an average cost to the State of $100 per hour. The total staff cost for this enforcement action is **$21,500**.

5. *Ability to Pay and Continue Business*

The Discharger is a privately held corporation. According to the information that Board staff obtained from public sources such as the Securities and Exchange Commission[3], the annual revenues, cost and expenses, and net incomes of the Discharger's sugar refining business are summarized in Table 7 below (Dollars are rounded up for one decimal approximation).

Table 7. C&H's Annual Revenue, Cost and Expenses, and Net Income Between 1999 and 2001(in million dollars)

	1999	2000	2001
Revenue	470.8	413.2	427.3
Cost and Expenses	463.4	409.8	433.8
Net Income	7.4	3.3	(6.5)

Although the Discharger incurred a net loss in 2001, the company's annual revenue actually increased over that of year 2000. This indicates that the market for refined sugar is not drastically decreasing in a way that will adversely affect C&H's refined sugar products. It appears that higher operating expenses that were related to elevated energy costs in year 2001 might have caused the loss. Considering the Discharger's annual revenues over the last three years, there are no facts in the record that suggest that the recommended penalty amount as shown in Table 8 below will put the company out of business. With a three-year payment schedule proposed in the Complaint, the Discharger can spread the penalty payments over time, thus minimizing financial impacts. Furthermore, the Discharger might have recourse to recover the penalty by pursuing legal action against the contract operator they hired or by filing a claim against the Discharger's insurance.

IV. RECOMMENDATION

Based on the consideration of abovementioned factors, I recommend the imposition of an ACL amount of $367,000 on the Discharger for 41 days of false reports of compliance with the chlorine residual limit and 355 days of reported effluent limit violations and non-compliance with self-monitoring and reporting requirements during the period between July 1, 1995 and December 31, 1999. This ACL amount is reduced from the maximum liability per violation to account for the Discharger's commitment, as stated in the DSA Report, to upgrade the chlorination/dechlorination system, its responsiveness to Board's requests for information upon discovery of the false reports of compliance with the chlorine residual limit, and the citizen action that resulted in an undisclosed settlement. Table 8 below summarizes the final penalty assessment.

[3] Information from Alexander & Baldwin's Year 2000 and Year 2001 Annual Report filed with SEC. Alexander & Baldwin used to own C&H until 1998. Presently Alexander & Baldwin retains 36% equity interest in C&H.

Table 8. Final Penalty Assessment

Penalty Category	**Final Fine ($)**
Administrative penalty	
1) 41 days of false reports of compliance with the chlorine residual limit @ $10,000 per day of violation)	410,000
2) 355 days of reported effluent limit violations and non-compliance with Self-Monitoring Program and reporting requirements	35,500
Board staff cost of preparing the Complaint	21,500
Recommended Reduction	(100,000)
Total Administrative Civil Liability ($)	***367,000***

Attachment A: Table Summary of Non-compliance Between July 1, 1995 and December 31, 1999.

Attachment A. Table Summary of Non-Compliance Between July 1, 1995 and December 31, 1999 4/15/02

Date	Days of Non-Compliance	Non-Compliance (NC) with NPDES Permit	Basis of violation
12/1/99	1	Fail to monitor temp for receiving water sample	Provision E.4
11/9/99	2	Fail to monitor temp for E-001	Provision E.4
11/9/99		Fail to monitor pH for E-001	Provision E.4
10/19/99	3	Fail to monitor BOD for E-001	Provision E.4
8/5/99	4	Fail to monitor condutivity for E-001	Provision E.4
5/4/99	5	Fail to monitor TSS for E-002	Provision E.4
5/4/99		Fail to monitor BOD for E-002	Provision E.4
12/31/98	6	Fail to monitor 4 Method 8150 analytes	Provision E.5
12/29/98	7	Fail to monitor temp for E-001	Provision E.4
12/29/98		Fail to monitor pH for E-001	Provision E.4
12/27/98	8	Fail to monitor temp for E-001	Provision E.4
12/27/98		Fail to monitor pH for E-001	Provision E.4
12/26/98	9	Fail to monitor temp for E-001	Provision E.4
12/26/98		Fail to monitor pH for E-001	Provision E.4
12/1/98	10	Fail to monitor temp for receiving water sample	Provision E.4
12/1/98		Fail to monitor pH for receiving water sample	Provision E.4
7/29/98	11	Fail to monitor settleable solid for E-002	Provision E.4
7/24/98	12	Fail to monitor temp for E-002	Provision E.4
7/23/98	13	Fail to monitor temp for E-002	Provision E.4
7/21/98	14	Fail to monitor temp for E-002	Provision E.4
7/12/98	15	Fail to monitor temp for E-002	Provision E.4
7/12/98		Fail to monitor temp for E-001	Provision E.4
7/12/98		Fail to monitor pH for E-001	Provision E.4
7/6/98	16	Fail to monitor temp for E-002	Provision E.4
6/17/98	17	Fail to monitor TSS for E-002	Provision E.4
6/17/98		Fail to monitor settleable solid for E-002	Provision E.4
6/17/98		Fail to monitor O&G for E-002	Provision E.4
6/17/98		Fail to monitor BOD for E-002	Provision E.4
5/28/98	18	Fail to monitor O&G for E-002	Provision E.4
5/17/98	19	Fail to monitor temp for E-001	Provision E.4
5/17/98		Fail to monitor pH for E-001	Provision E.4
5/16/98	20	Fail to monitor temp for E-001	Provision E.4
5/16/98		Fail to monitor pH for E-001	Provision E.4
5/7/98	21	Fail to monitor temp for E-001	Provision E.4
5/7/98		Fail to monitor pH for E-001	Provision E.4
5/4/98	22	Fail to monitor temp for E-001	Provision E.4
5/4/98		Fail to monitor pH for E-001	Provision E.4
5/3/98	23	Fail to monitor temp for E-001	Provision E.4
5/3/98		Fail to monitor pH for E-001	Provision E.4
5/2/98	24	Fail to monitor temp for E-001	Provision E.4
5/2/98		Fail to monitor pH for E-001	Provision E.4
4/24/98	25	Fail to monitor temp for E-001	Provision E.4
4/24/98		Fail to monitor pH for E-001	Provision E.4
4/16/98	26	Fail to monitor BOD for I-1	Provision E.4
4/16/98		Fail to monitor BOD for E-001	Provision E.4
4/9/98	27	Fail to monitor temp for E-001	Provision E.4
4/9/98		Fail to monitor pH for E-001	Provision E.4
3/31/98	28	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
3/31/98		Fail to monitor receiving water for all parameters	Provision E.4
3/8/98	29	Fail to monitor temp for E-001	Provision E.4
3/8/98		Fail to monitor pH for E-001	Provision E.4
3/7/98	30	Fail to monitor temp for E-001	Provision E.4
3/7/98		Fail to monitor pH for E-001	Provision E.4

3/6/98	31	Fail to monitor temp for E-001	Provision E.4
3/6/98		Fail to monitor pH for E-001	Provision E.4
3/5/98	32	Fail to monitor temp for E-001	Provision E.4
3/5/98		Fail to monitor pH for E-001	Provision E.4
2/28/98	33	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
2/22/98	34	Fail to monitor temp for E-001	Provision E.4
2/22/98		Fail to monitor pH for E-001	Provision E.4
2/21/98	35	Fail to monitor temp for E-001	Provision E.4
2/21/98		Fail to monitor pH for E-001	Provision E.4
2/13/98	36	Fail to monitor temp for E-001	Provision E.4
2/13/98		Fail to monitor pH for E-001	Provision E.4
2/7/98	37	Fail to monitor temp for E-001	Provision E.4
2/7/98		Fail to monitor pH for E-001	Provision E.4
1/31/98	38	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
1/30/98	39	Fail to monitor temp for E-001	Provision E.4
1/30/98		Fail to monitor pH for E-001	Provision E.4
1/28/98	40	Fail to monitor temp for E-001	Provision E.4
1/28/98		Fail to monitor pH for E-001	Provision E.4
1/22/98	41	Fail to monitor temp for E-001	Provision E.4
1/22/98		Fail to monitor pH for E-001	Provision E.4
1/21/98	42	Fail to monitor temp for E-001	Provision E.4
1/21/98		Fail to monitor pH for E-001	Provision E.4
1/13/98	43	Fail to monitor temp for E-001	Provision E.4
1/13/98		Fail to monitor pH for E-001	Provision E.4
12/31/97	44	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
12/31/97		Fail to monitor temp for E-001	Provision E.4
12/31/97		Fail to monitor pH for E-001	Provision E.4
12/31/97		Annual Report signed by unauthorized person	Std Provision E.1.a & b
12/30/97	45	Fail to monitor temp for E-001	Provision E.4
12/30/97		Fail to monitor pH for E-001	Provision E.4
12/30/97		Fail to monitor O&G for E-002	Provision E.4
12/30/97		Fail to monitor BOD for I-1	Provision E.4
12/30/97		Fail to monitor BOD for E-001	Provision E.4
12/29/97	46	Fail to monitor temp for E-001	Provision E.4
12/29/97		Fail to monitor pH for E-001	Provision E.4
12/26/97	47	Fail to record tidal condition of receiving water	Provision E.4
12/19/97	48	Fail to monitor temp for E-001	Provision E.4
12/19/97		Fail to monitor pH for E-001	Provision E.4
12/15/97	49	Fail to monitor temp for E-001	Provision E.4
12/15/97		Fail to monitor pH for E-001	Provision E.4
12/14/97	50	Fail to monitor temp for E-001	Provision E.4
12/14/97		Fail to monitor pH for E-001	Provision E.4
12/13/97	51	Fail to monitor temp for E-001	Provision E.4
12/13/97		Fail to monitor pH for E-001	Provision E.4
11/30/97	52	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
11/30/97		Fail to monitor condutivity for E-001	Provision E.4
11/16/97	53	Fail to monitor temp for E-001	Provision E.4
11/16/97		Fail to monitor pH for E-001	Provision E.4
11/14/97	54	Fail to monitor temp for E-001	Provision E.4
11/14/97		Fail to monitor pH for E-001	Provision E.4
11/13/97	55	Fail to monitor temp for E-001	Provision E.4
11/13/97		Fail to monitor pH for E-001	Provision E.4
11/12/97	56	Fail to monitor temp for E-001	Provision E.4
11/12/97		Fail to monitor pH for E-001	Provision E.4
11/2/97	57	Fail to monitor temp for E-001	Provision E.4

11/2/97		Fail to monitor pH for E-001	Provision E.4
11/1/97	58	Fail to monitor temp for E-001	Provision E.4
11/1/97		Fail to monitor pH for E-001	Provision E.4
10/31/97	59	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
10/28/97	60	Fail to monitor temp for E-002	Provision E.4
10/22/97	61	Fail to monitor temp for E-002	Provision E.4
10/19/97	62	Fail to monitor temp for E-001	Provision E.4
10/19/97		Fail to monitor pH for E-001	Provision E.4
10/18/97	63	Fail to monitor temp for E-001	Provision E.4
10/18/97		Fail to monitor pH for E-001	Provision E.4
10/15/97	64	Fail to monitor temp for E-002	Provision E.4
10/14/97	65	Fail to monitor temp for E-002	Provision E.4
10/9/97	66	Fail to monitor temp for E-001	Provision E.4
10/9/97		Fail to monitor pH for E-001	Provision E.4
10/8/97	67	Fail to monitor temp for E-001	Provision E.4
10/8/97		Fail to monitor pH for E-001	Provision E.4
9/30/97	68	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
9/25/97	69	Fail to record tidal condition of receiving water	Provision E.4
9/25/97		Fail to monitor D.O. for receiving water sample	Provision E.4
8/31/97	70	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
7/31/97	71	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
7/18/97	72	Fail to monitor temp for E-001	Provision E.4
7/18/97		Fail to monitor pH for E-001	Provision E.4
7/15/97	73	Fail to monitor pH for E-001	Provision E.4
6/30/97	74	Inaccurate SMR signed by unauthorized person	Std Provision E.1.a & b
6/30/97		Fail to record tidal condition of receiving water	Provision E.4
6/30/97		Fail to monitor temp. for receiving water sample	Provision E.4
6/30/97		Fail to monitor D.O. for receiving water sample	Provision E.4
6/30/97		Fail to monitor condutivity for E-001	Provision E.4
6/29/97	75	Fail to monitor temp for E-001	Provision E.4
6/29/97		Fail to monitor pH for E-001	Provision E.4
6/28/97	76	Fail to monitor temp for E-001	Provision E.4
6/28/97		Fail to monitor pH for E-001	Provision E.4
5/31/97	77	Fail to monitor condutivity for E-001	Provision E.4
4/30/97	78	Fail to monitor condutivity for E-001	Provision E.4
4/6/97	79	Fail to monitor D.O. for receiving water sample	Provision E.4
12/31/96	80	Fail to record tidal condition of receiving water	Provision E.4
12/31/96		Fail to monitor temp for receiving water sample	Provision E.4
12/31/96		Fail to monitor temp for E-001	Provision E.4
12/31/96		Fail to monitor pH for E-001	Provision E.4
12/31/96		Fail to monitor D.O. for receiving water sample	Provision E.4
12/30/96	81	Fail to monitor temp for E-001	Provision E.4
12/30/96		Fail to monitor pH for E-001	Provision E.4
12/29/96	82	Fail to monitor temp for E-001	Provision E.4
12/29/96		Fail to monitor pH for E-001	Provision E.4
12/28/96	83	Fail to monitor temp for E-001	Provision E.4
12/28/96		Fail to monitor pH for E-001	Provision E.4
12/26/96	84	Fail to monitor temp for E-001	Provision E.4
12/26/96		Fail to monitor pH for E-001	Provision E.4
12/17/96	85	Fail to monitor temp for E-002	Provision E.4
12/15/96	86	Fail to monitor temp for E-001	Provision E.4
12/15/96		Fail to monitor pH for E-001	Provision E.4
12/14/96	87	Fail to monitor temp for E-001	Provision E.4
12/14/96		Fail to monitor pH for E-001	Provision E.4
12/1/96	88	Fail to monitor temp for E-001	Provision E.4

12/1/96		Fail to monitor pH for E-001	Provision E.4
11/30/96	89	Fail to monitor temp for E-001	Provision E.4
11/30/96		Fail to monitor pH for E-001	Provision E.4
11/30/96		Fail to monitor condutivity for E-001	Provision E.4
11/29/96	90	Fail to monitor temp for E-001	Provision E.4
11/29/96		Fail to monitor pH for E-001	Provision E.4
11/26/96	91	Fail to monitor temp for E-002	Provision E.4
11/17/96	92	Fail to monitor temp for E-001	Provision E.4
11/17/96		Fail to monitor pH for E-001	Provision E.4
11/16/96	93	Fail to monitor temp for E-001	Provision E.4
11/16/96		Fail to monitor pH for E-001	Provision E.4
11/5/96	94	Fail to monitor temp for E-002	Provision E.4
11/5/96		Fail to monitor temp for E-001	Provision E.4
11/5/96		Fail to monitor pH for E-001	Provision E.4
11/4/96	95	Fail to monitor temp for E-001	Provision E.4
11/4/96		Fail to monitor pH for E-001	Provision E.4
11/3/96	96	Fail to monitor temp for E-001	Provision E.4
11/3/96		Fail to monitor pH for E-001	Provision E.4
11/2/96	97	Fail to monitor temp for E-001	Provision E.4
11/2/96		Fail to monitor pH for E-001	Provision E.4
10/31/96	98	Fail to monitor temp for E-002	Provision E.4
10/31/96		Fail to monitor temp for E-001	Provision E.4
10/31/96		Fail to monitor pH for E-001	Provision E.4
10/30/96	99	Fail to monitor temp for E-001	Provision E.4
10/30/96		Fail to monitor pH for E-001	Provision E.4
10/26/96	100	Fail to monitor temp for E-001	Provision E.4
10/26/96		Fail to monitor pH for E-001	Provision E.4
10/20/96	101	Fail to monitor temp for E-001	Provision E.4
10/20/96		Fail to monitor pH for E-001	Provision E.4
10/19/96	102	Fail to monitor temp for E-001	Provision E.4
10/19/96		Fail to monitor pH for E-001	Provision E.4
10/6/96	103	Fail to monitor temp for E-001	Provision E.4
10/6/96		Fail to monitor pH for E-001	Provision E.4
10/5/96	104	Fail to monitor temp for E-001	Provision E.4
10/5/96		Fail to monitor pH for E-001	Provision E.4
10/4/96	105	Fail to monitor temp for E-001	Provision E.4
10/4/96		Fail to monitor pH for E-001	Provision E.4
9/29/96	106	Fail to monitor temp for E-001	Provision E.4
9/29/96		Fail to monitor pH for E-001	Provision E.4
9/26/96	107	Fail to monitor temp for E-002	Provision E.4
9/25/96	108	Fail to monitor temp for E-002	Provision E.4
8/28/96	109	Fail to monitor temp for E-001	Provision E.4
8/17/96	110	Fail to monitor temp for E-001	Provision E.4
8/17/96		Fail to monitor pH for E-001	Provision E.4
8/16/96	111	Fail to monitor temp for E-002	Provision E.4
8/11/96	112	Fail to monitor temp for E-001	Provision E.4
7/28/96	113	Fail to monitor temp for E-001	Provision E.4
7/27/96	114	Fail to monitor temp for E-001	Provision E.4
6/28/96	115	Fail to monitor temp for E-001	Provision E.4
6/27/96	116	Fail to monitor temp for E-001	Provision E.4
6/21/96	117	Fail to monitor temp for E-001	Provision E.4
6/20/96	118	Fail to monitor temp for E-001	Provision E.4
6/17/96	119	Fail to monitor temp for E-001	Provision E.4
6/8/96	120	Fail to monitor temp for E-001	Provision E.4
6/8/96		Fail to monitor pH for E-001	Provision E.4

5/9/96	121	Fail to monitor temp for E-001	Provision E.4
5/9/96		Fail to monitor pH for E-001	Provision E.4
5/7/96	121	Fail to monitor temp for E-001	Provision E.4
5/7/96		Fail to monitor pH for E-001	Provision E.4
5/6/96	123	Fail to monitor temp for E-001	Provision E.4
5/6/96		Fail to monitor pH for E-001	Provision E.4
4/26/96	124	Fail to monitor temp for E-001	Provision E.4
4/15/96	125	Fail to sign SMR	Std Provision E.1.a & b
4/3/96	126	Fail to monitor temp for E-003	Provision E.4
4/3/96		Fail to monitor temp for E-001	Provision E.4
4/3/96		Fail to monitor pH for E-003	Provision E.4
4/3/96		Fail to monitor pH for E-001	Provision E.4
3/29/96	127	Fail to monitor temp for E-001	Provision E.4
3/29/96		Fail to monitor pH for E-001	Provision E.4
3/26/96	128	Fail to monitor flow rate for E-003	Provision E.4
3/15/96	129	Fail to monitor temp for E-003	Provision E.4
3/14/96	130	Fail to monitor temp for E-003	Provision E.4
3/13/96	131	Fail to monitor temp for E-003	Provision E.4
3/12/96	132	Fail to monitor temp for E-003	Provision E.4
3/11/96	133	Fail to monitor temp for E-003	Provision E.4
3/10/96	134	Fail to monitor temp for E-003	Provision E.4
3/9/96	135	Fail to monitor temp for E-003	Provision E.4
3/8/96	136	Fail to monitor temp for E-003	Provision E.4
3/7/96	137	Fail to monitor temp for E-003	Provision E.4
3/6/96	138	Fail to monitor temp for E-003	Provision E.4
9/1/95	139	Fail to monitor O&G for E-002	Provision E.4
8/4/95	140	Fail to monitor temp for E-003	Provision E.4
8/4/95		Fail to monitor temp for E-001	Provision E.4
8/4/95		Fail to monitor pH for E-003	Provision E.4
8/4/95		Fail to monitor pH for E-001	Provision E.4
8/3/95	141	Fail to monitor temp for E-003	Provision E.4
8/3/95		Fail to monitor temp for E-001	Provision E.4
8/3/95		Fail to monitor pH for E-003	Provision E.4
8/3/95		Fail to monitor pH for E-001	Provision E.4
8/2/95	142	Fail to monitor temp for E-003	Provision E.4
8/2/95		Fail to monitor temp for E-001	Provision E.4
8/2/95		Fail to monitor pH for E-003	Provision E.4
8/2/95		Fail to monitor pH for E-001	Provision E.4
8/1/95	143	Fail to monitor temp for E-003	Provision E.4
8/1/95		Fail to monitor temp for E-001	Provision E.4
8/1/95		Fail to monitor pH for E-003	Provision E.4
8/1/95		Fail to monitor pH for E-001	Provision E.4
7/31/95	144	Fail to monitor temp for E-001	Provision E.4
7/31/95		Fail to monitor pH for E-001	Provision E.4
7/30/95	145	Fail to monitor temp for E-001	Provision E.4
7/30/95		Fail to monitor pH for E-001	Provision E.4
7/29/95	146	Fail to monitor temp for E-001	Provision E.4
7/29/95		Fail to monitor pH for E-001	Provision E.4
7/28/95	147	Fail to monitor temp for E-001	Provision E.4
7/28/95		Fail to monitor pH for E-001	Provision E.4
Total	147 days		